National Institute of Environmental Health Sciences

The economics of natural disasters: Implications and challenges for food security

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Abstract:

A large and growing share of the world's poor lives under conditions in which high risk of natural hazards coincides with high vulnerability. As a result natural disasters hit the poor disproportionately. In the last decade, natural disasters claimed 79,000 lives each year and affected more than 200 million people, with damages amounting to almost US$70 billion annually. Experts predict that disasters will become even more frequent and their impact more severe, expecting a 5-fold global cost increase over the next 50 years, mainly due to climate change and a further concentration of the world's population in vulnerable habitats. The article argues that in order to mitigate disaster impact on poor population groups, development policy and disaster management need to become mutually supportive. Focusing on challenges disasters pose to food security, it proposes that in disaster-prone locations measures to improve disaster resilience should be an integral part of food security policies and strategies. It expands the twin-track approach to hunger reduction to a "triple-track approach," giving due attention to cross-cutting disaster risk-management measures. Practical areas requiring more attention include risk information and analysis; land use planning; upgrading physical infrastructures; diversification and risk transfer mechanisms. Investments in reducing disaster risk will be most needed where both hazard risk and vulnerability are high. As agriculture is particularly vulnerable to disaster risk, measures to reduce this vulnerability, i.e., protecting agricultural lands and water and other assets, should get greater weight in development strategies and food security policies. Investing in disaster resilience involves trade-offs. Identifying the costs, benefits, and trade-offs involved will be a prominent task of agricultural economists.

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Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Security

Extreme Weather Event: Drought, Flooding, Hurricanes/Cyclones, Landslides, Wildfires

Food/Water Security: Agricultural Productivity

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Co-Benefit/Co–Harm (Adaption/Mitigation): ☑

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Injury

Intervention: ☑

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status

Other Vulnerable Population: Women

Resource Type: ☒

format or standard characteristic of resource

Review

Resilience: ☒

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: ☒

time period studied

Time Scale Unspecified